Screening, Brief Intervention, and Referral to Treatment (SBIRT) in a Polish Emergency Department: Three-Month Outcomes of a Randomized, Controlled Clinical Trial*

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ABSTRACT. Objective: A randomized, controlled trial of screening, brief intervention, and referral to treatment (SBIRT) for drinking and related problems among at-risk and dependent drinkers was conducted in an emergency department (ED) in Sosnowiec, Poland, among patients ages 18 years and older. **Method:** Data were collected over a 23-week period, from 4:00 PM to midnight, and resulted in 446 patients being recruited into the study (90% of those who screened positive) and randomized to three conditions following a two-stage process: screened only (n = 147), assessed (n = 152), and received intervention (n = 147). Patients in the assessment (85%) and intervention (83%) conditions were blindly reassessed at 3 months via a telephone interview. **Results:** At 3-month follow-up, both groups showed significant decreases in the proportion who were positive for at-risk drinking, the primary outcome variable. Both groups also showed significant decreases in drinking days per week, drinks per drinking day, maximum drinks per occasion, and negative consequences of drinking. Using analysis of covariance to control for baseline measures and demographic characteristics, no difference in outcome measures was found between intervention and assessment conditions. Subgroup analysis found some significant interactions between intervention and secondary outcomes. **Conclusions:** Although the main findings were similar to those from other brief-intervention studies in Western cultures, findings here also suggest that intervention may have differential benefits for specific subgroups of patients in the ED, an area of research that may warrant additional study of brief intervention in the ED setting. (*J. Stud. Alcohol Drugs* **70:** 982-990, 2009)

MOST INDIVIDUALS MEETING CRITERIA for heavy/problem "at risk" drinking or those with alcohol-use disorders do not seek specialized treatment for their drinking problems (Reid et al., 1999). Brief interventions have been found useful in motivating dependent drinkers to seek specialized treatment and nondependent drinkers to change drinking behavior and use referral resources (reviewed in Ballesteros et al., 2004; Beich et al., 2003; Bien et al., 1993). The rationale is compelling for brief intervention in the emergency department (ED) for those with alcohol-involved injuries as well as patients with alcohol-related medical conditions. An intervention that can successfully link drinking—possibly in combination with other hazardous behaviors (e.g., risk taking in the case of injury)—with the event bringing the patient to the ED may be sufficient to tip decisional balance in favor of reducing alcohol consumption and future alcohol-related negative consequences (Conigrave et al., 1991; Gentilello et al., 1999). Additionally, the ED visit may provide a window of opportunity for changing drinking behaviors for those who have not been drinking before the ED visit and/or who present to the ED with conditions unrelated to alcohol consumption but who have a history of at-risk or dependent drinking.

Studies in the published literature reporting outcomes of brief intervention among adult ED patients are still relatively few in number compared with those reporting findings from primary care settings, and some of these studies have been restricted to ED patients who are subsequently hospitalized (Antti-Poika et al., 1988; Gentilello et al., 1999; Schermer et al., 2006; Soderstrom et al., 2007; Sommers et al., 2006). Although studies of hospitalized ED patients (the minority of patients admitted to the ED) have found brief intervention to be efficacious for a reduction in drinking and alcohol-related problems at follow-up compared with controls, studies of nonhospitalized ED patients have reported more mixed results, especially with dependent patients (Bazargan-Hejazi et al., 2005; Blow et al., 2006; Crawford et al., 2004; Longabaugh et al., 2001; Neumann et al., 2006; Rodríguez-Martos Dauer et al., 2003), including no effect of brief intervention (Daeppen et al., 2007).

Findings from these studies have varied in relation to (1) whether the brief intervention was applied in the ED or in the hospital, (2) whether the study was restricted to injured patients (and perhaps to only one injury type) or also included noninjured patients, (3) whether the intervention was

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applied across the spectrum of drinking behaviors, and (4) the length of follow-up and follow-up rates.

Because of the substantial number of trauma center admissions related to alcohol (Cherpitel, 2007), the American College of Surgeons Committee on Trauma recently mandated screening, brief intervention, and referral to treatment (SBIRT) in all level-one trauma centers (Committee on Trauma, 2006). Coinciding with this requirement, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the Substance Abuse, Mental Health and Services Administration (SAMHSA) funded a SBIRT study in 14 U.S. academic-based EDs (Emergency Medicine Research Collaborative, 2004). The Academic Emergency Medicine Collaborative (AEMC) SBIRT study was the first multisite study of screening, brief intervention, and referral for at-risk (according to NIAAA guidelines) and dependent drinking in the ED and developed methods to effectively implement a model of SBIRT (screening more than 8,000 ED patients) and a model curriculum, which trained more than 400 ED providers to implement brief motivational interviewing (Academic ED SBIRT Research Collaborative, 2007a; Bernstein et al., 1997).

Findings reported here are the first on the efficacy of the SBIRT protocol as used in the AEMC SBIRT study outside of the United States. A randomized, controlled trial of SBIRT, with and without assessment, was conducted in an ED in Sosnowiec, Poland, the first level-one trauma center in that country. Poland is a Central European, distilled spirits–drinking country, characterized by infrequent but heavy drinking, with high levels of intoxication, especially among men, leading to high rates of acute alcohol-related problems (Moskalewicz, 1993). This pattern of drinking is especially predominant in the more traditional, southern region of the country, the site of the present study, which is inhabited by those employed for generations in heavy industry (mining and steel).

Drinking patterns in this region are characterized by high consumption per drinking occasion (now coupled with the more modern trend of frequent drinking), binge drinking (drinking "to the bottom of the bottle"), vodka and/or beer as the preferred beverage, and social pressure to drink like (i.e., as heavy as) others. An earlier study in this same Polish ED found high rates of heavy drinking: 25% consumed more than 12 L of alcohol annually, and 16% met diagnostic criteria for an alcohol-use disorder (Cherpitel et al., 2005b; Moskalewicz et al., 2006).

Reported here are findings from the 3-month follow-up of patients in the assessment-only group compared with those in the group of assessment followed by intervention regarding a reduction in drinking and related problems. We hypothesized that, compared with standard care plus assessment, addition of the motivational interview would lead to significantly greater reductions in at-risk drinking (as the main outcome) and in the number of drinking days per week, the number of drinks per drinking day, the maximum number of drinks on an occasion, and the number of negative consequences of drinking (as secondary outcomes). In subgroup analysis, admission to the ED with an injury, a positive blood alcohol concentration (BAC), self-reported drinking before the event, feeling drunk, attributing a causal association between drinking and the event, and readiness to change were hypothesized to positively predict efficacy of the intervention, whereas risk taking/impulsivity and sensation-seeking dispositions were hypothesized to negatively predict efficacy of the intervention.

Findings from this study are especially important, considering the mandate of SBIRT in Level 1 trauma centers and the mixed research literature on the efficacy of brief intervention for problem drinking in this setting. Given the particularly high rate of heavy problem (but not necessarily dependent) drinking in this Polish population, findings here may have a greater likelihood of determining the efficacy of brief intervention, which has not been possible in prior studies because of sample populations that either drank just above the mild range according to the risk guidelines or were alcohol dependent, both groups in which brief intervention has not been found to be efficacious (Bernstein and Bernstein, 2008). If efficacious, both ED clinicians and public health care policy makers would benefit from these data in relation to implementation of brief intervention in the ED setting internationally (Barnett et al., 2003).

Method

Patient screening, eligibility, recruitment, and randomization

Screening. All patients 18 years and older attending the ED in Sosnowiec, Poland, between 4:00 PM and midnight (during which time a higher proportion of those screening positive was expected) 7 days a week were eligible to be screened for the study. Screening consisted of administration of the four-item Rapid Alcohol Problems Screen (RAPS4 (**R**emorse, **A**mnesia, **P**erform, **S**tarter; Cherpitel, 2000), an instrument previously validated in this population (Cherpitel et al., 2005a,b), for both the last year and the last 3 months as a measure of alcohol dependence, and quantity and frequency (QF) of drinking questions, also validated in this population (Moskalewicz et al., 2006), to determine the number of drinking days per week, the number of drinks per average drinking day during the last year, and the maximum number of drinks on an occasion in the last month.

Patients were approached in the order of their arrival in the ED. After the interviewer obtained verbal agreement from patients to participate in a short, anonymous, confidential interview to learn about their alcohol use, they were asked the RAPS4 items and the QF questions. Patients were deemed eligible for the study if answers were positive on any one of

the four RAPS4 items during the last year, they reported 11 or more drinks per week for men (six or more for women), or they reported four or more drinks on an occasion for men (three or more for women), applying a somewhat lower threshold for screening criteria than the NIAAA guidelines of 15 or more standard drinks per week for men (eight or more for women) or five or more standard drinks on an occasion for men (four or more for women).

Eligibility. Eligibility criteria also included (1) not presently being treated for an alcohol-related problem; (2) willing to give informed consent to be randomized into one of three groups: (a) screened only with 3-month contact (to update contact information) and assessed at 12 months, (b) assessed with 3- and 12-month follow-up assessments, or (c) assessed and receiving intervention with 3- and 12-month follow-up assessments; and (3) willing to provide contact information for at least two individuals who would always know participant's whereabouts.

Randomization. Eligible patients agreeing to participate in the study provided a signed, informed consent and were then randomized using a two-stage process. Patients were first randomized to the screen-only or assessment condition by the study interviewer, who drew an envelope with the condition assignment. The envelope of those receiving an assessment contained a second envelope, which was opened by the interviewer following assessment to determine whether the patient was assigned to the intervention condition.

Recruitment. Patient recruitment continued over a 23-week period (May to November 2007) and resulted in 1,913 screened individuals (which represented 65% of the target population admitted to the ED between 4 PM and midnight) (see Figure 1 for a flowchart of patient screening, recruitment, and follow-up). Of the 446 patients recruited into the study, 147 were randomized to the screened condition, 152 to the assessed condition, and 147 to the intervention condition. Of the 147 patients randomized to the intervention condition, two refused the intervention but are analyzed in the intervention condition as intention to treat.

Patient assessment

Patient assessment consisted of the following: estimated BAC, reason for the ED visit, self-reported drinking within 6 hours before the event bringing the patient to the ED, feeling drunk at the time of the event, patient's causal attribution of drinking and the event, quantity and frequency of usual drinking, consequences of drinking, readiness for and stage of change, and risk taking/impulsivity and sensation-seeking dispositions. All instruments had previously undergone translation in Polish, verified by either back-translation according to Breslin (1986) or attestation by an expert experienced in cross-cultural investigations from the Institute of Psychiatry and Neurology, Warsaw, Poland, and used in other clinical populations in Poland. Patients randomized to the assessment condition received a list of AA groups and specialized services for alcohol treatment and counseling following assessment.

BAC was estimated using the Alcohol-Sensor III breath alcohol analyzer (Intoximeters, Inc., St. Louis, Missouri), which provides estimates of blood alcohol that have a high correlation with chemical analysis of blood (Gibb et al., 1984).

The Timeline Followback (Sobell and Sobell, 1992) was used to assess quantity and frequency of drinking over the last 30 days, including number of drinking days, number of drinks per drinking day, and the maximum number of drinks per day.

The Short Inventory of Problems (SIPs + 6) (Miller et al., 1995) was used to assess negative consequences related to drinking over the last 12 months (and over the last 3 months). This 21-item inventory is a brief version of the 45-item Drinking Inventory of Consequences (DrInC) developed by project MATCH (Matching Alcoholism Treatments to Client Heterogeneity), which includes consequences related to physical, social responsibility, intrapersonal, impulse control and interpersonal domains, and retains six questions having to do with injury and drinking and driving.

Readiness for and stage of change were assessed using the Readiness to Change Ruler, which is a linearization of Prochaska and DiClemente's (1992) stages-of-change model that was developed and validated by Rollnick for use in general medical settings (Rollnick et al., 1992). Readiness scores are derived from patients' self-reports, using a simple ruler graphic (on a scale of 1 to 10).

Risk taking/impulsivity was assessed from five items adapted from Eysenk (1977) and Jackson (1976) and previously analyzed using principal axis factor analysis (Cherpitel, 1993), which suggested a single factor (Cronbach's α = .80). Sensation seeking was assessed from four items on novelty and thrill seeking adapted from Zuckerman (1979). These items also underwent factor analysis (Cherpitel, 1993), suggesting a single factor (Cronbach's α = .87). This instrument has previously been used in Poland (Manwell et al., 2002). Each item for both dispositions was measured on a scale from 1 to 4 and summed separately across items for each disposition.

A cadre of interviewers were trained by the authors and supervised by survey research staff from the Institute of Psychiatry and Neurology, Warsaw, to carry out patient recruitment, screening, assessment, and randomization procedures.

Intervention

Patients randomized to the intervention condition received a brief motivational intervention by a nurse who had been trained in SBIRT, using the Brief Negotiated Interview (BNI; Bernstein et al., 1997). The BNI elements included engage-

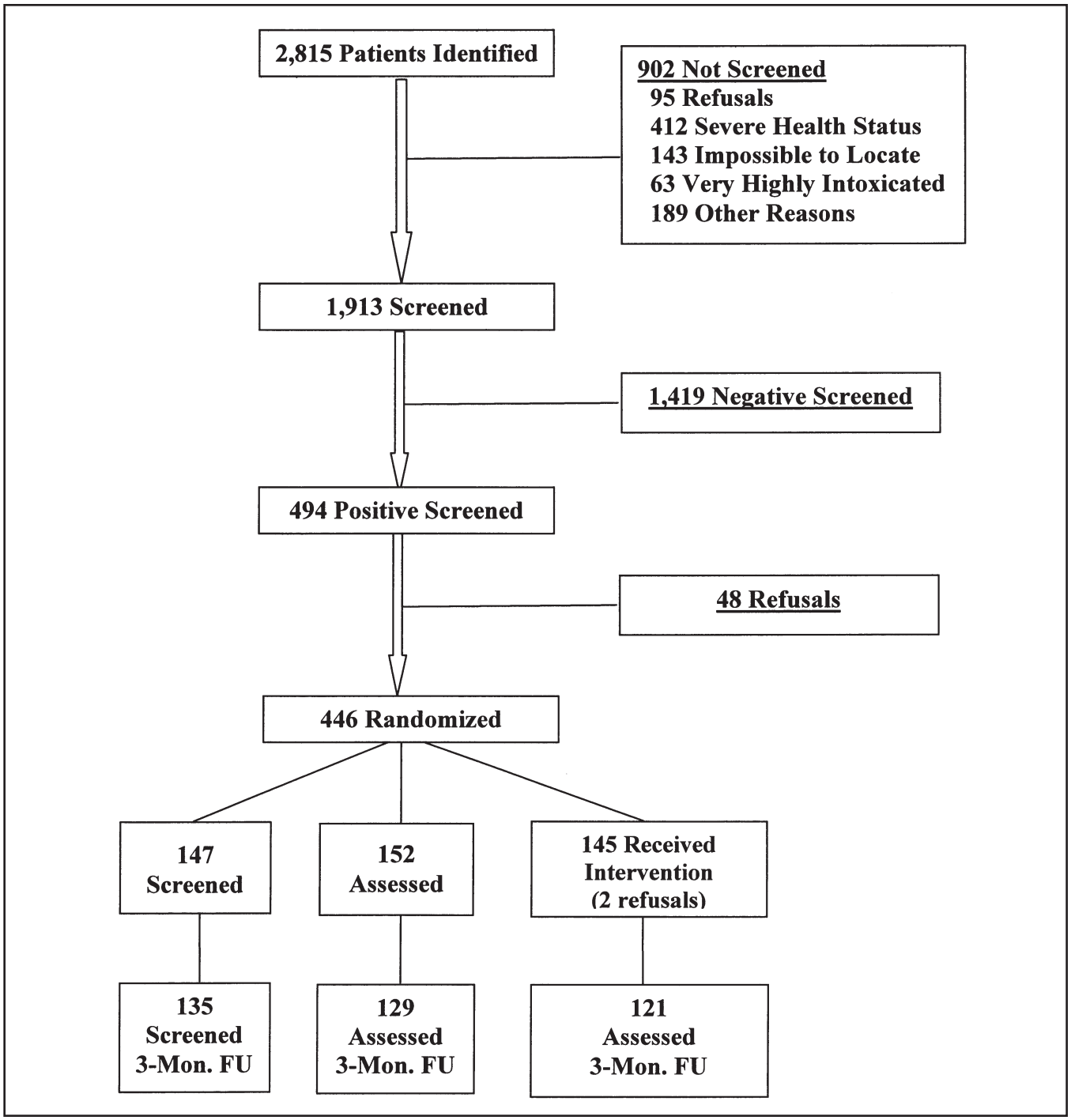

FIGURE 1. Screening, recruitment, and follow-up (FU) rates; mon. = month

ment and permission, feedback, information and norms, decisional balance and pros and cons, readiness to change, menus of options, and prescription for change. The intervention was designed to take about 15-20 minutes to complete and integrated the elements of motivational interviewing and readiness to change (Prochaska and DiClemente, 1992) with specific action, providing a therapeutic technique that is patient oriented, builds on self-efficacy, and uses the patient's existing strengths and resources to facilitate and support positive behavior change (Rollnick et al., 1992).

The intervention generally took place while the patient was waiting for treatment. Both the nurse and the patient

signed a prescription for change. A list of AA groups and specialized services for alcohol treatment and counseling was provided to the patient, an important focus of the intervention among dependent drinkers in motivating them to make contact with the treatment system.

Nurse interventionist training

Training in SBIRT was provided on-site by two clinicians using protocols they had stablished in training at all sites in the AEMC SBIRT study and that included a slide show, plastic pocket cards, a video teaching program, and other written materials, all of which had been translated and adapted for use in Poland, based on information obtained from an earlier focus-group study of reasons for drinking and barriers to change among dependent and at-risk drinkers previously identified in the same ED.

Polish colleagues at the Institute of Psychiatry and Neurology were initially trained. Then, in turn, and with assistance from the clinicians, they trained eight nurses on staff in the ED, who provided the intervention during their regularly scheduled shifts. Training covered a 2-day period and included practice interventions in the ED, in the presence of one of the trainers. Nurse interventionists were also given a copy of the adherence protocol, designed to elicit responses to 12 elements (Bernstein et al., 2005), which served as a useful guide for including all elements of the intervention during the patient encounter. Booster training sessions were provided by study staff as needed.

Monitoring fidelity to treatment and controlling potential threats to validity

As a measure of integrity of the intervention, interventions were initially observed by the Polish authors with patients' consent. Following the intervention, immediate feedback was offered to the nurse to ensure high quality of the intervention. In addition, several interventions per nurse were taped (audio) to monitor integrity, and any deviations from the original intervention protocol that appeared to affect the integrity of the intervention were discussed with the intervention nurse. The interviewer also conducted a brief exit interview with patients receiving the intervention, regarding whether a nurse had talked with them about their drinking, whether they were satisfied with the intervention, and whether a contract agreement was reached.

Three-month follow-up assessment

Those in the assessment and intervention conditions were recontacted by telephone and reassessed at 3 months by an interviewer blinded to group status, using the Timeline Followback (30 days), the SIPs + 6 (3 months), and readiness for and stage of change. Patients were also asked whether they obtained treatment for their drinking in the last 3 months. Those not reachable by phone were contacted in person (16%; $n = 71$). Contact information was updated on all patients. Among those in the assessment and intervention conditions, 85% ($n = 129$) and 83% ($n = 121$) were successfully contacted and reassessed, respectively (see Figure 1).

Data analysis

Demographic characteristics and drinking-related outcomes were compared between assessment and intervention conditions at baseline, using the independent test of difference in proportions for dichotomous measures and independent *t* tests for continuous measures (Table 1).

Because of the significant differences between the assessment and intervention conditions at baseline and because the literature suggests that brief intervention is most efficacious for those drinking at a nondependent level, subsequent analyses were restricted to those who reported an average of not more than six drinks per day at baseline on both the QF screening measure and the 30-day Timeline Followback. A scatter plot of these two measures by treatment condition among those followed up at 3 months (Figure 2) shows that 2 patients in the assessed condition and 13 in the intervention condition did not meet this criterion and were excluded from follow-up analysis.

Among those who were followed up at 3 months (129 assessment and 121 intervention patients), drinking-related outcomes were compared between assessment and intervention conditions separately at baseline and at 3-month follow-up among those reporting an average of not more than six drinks per day (127 assessment and 108 intervention patients) (Table 2). Drinking-related outcomes were also compared separately between baseline assessment and 3-month follow-up for those in the assessment and intervention conditions using McNemar's chi-squared test for dichotomous measures and paired *t* tests for continuous measures (Table 2).

Analysis of covariance was used to test the effect of assessment only versus intervention at 3-month follow-up, controlling for baseline measures, gender, and age (Table 3). Analysis of covariance was also used in subgroup analysis to examine the interaction of treatment condition with potential treatment effect modifiers: injury status, BAC, self-report of drinking before the event, feeling drunk, attribution of event to drinking, readiness to change, and risk taking/impulsivity and sensation-seeking dispositions.

A priori power was calculated based on the difference in paired differences between post- and pre-measurements for the intervention compared with the assessed group. In two-sided tests with $\alpha = .05$, given the sample size per group at 3-month follow-up, power to detect small-to-medium effect sizes (considered to be clinically meaningful) is approximately .75.

Results

As seen in Table 1, despite randomization at baseline assessment, those in the intervention condition were significantly ($p < .05$) less likely to be injured and more likely to report a greater number of drinking days per week and negative consequences related to drinking than those in the assessment condition. Additionally noteworthy in this table is the relatively small number of drinking days per week for both groups, coupled with a relatively large number of drinks per drinking day and maximum drinks per occasion, which reflects the typical Polish drinking style of infrequent but heavy drinking described above. Only three patients reported any treatment for a drinking problem during the previous year (two were in the assessment condition and one in the intervention condition; data not shown).

Table 2 shows the baseline and 3-month values for those followed up at 3 months who met the six-drink criterion by treatment condition. As seen in this table, significant ($p < .05$) improvements in the main outcome (at-risk drinking) and in secondary outcomes (alcohol consumption patterns and negative consequences of drinking) were seen at 3 months for both conditions. Only one patient (assigned to the assessment condition) reported any outside alcohol treatment at 3-month follow-up.

Table 1. Baseline characteristics for the total sample by treatment condition

Variable	Assessment ($n = 152$)	Intervention ($n = 147$)
Injured, %	77.0	63.9*
Male, %	85.5	85.0
Age < 30, %	43.4	45.6
1+ RAPS4, last 3 months, %	38.8	42.9
At-risk drinking, %	89.5	88.4
Drinking pattern, mean (SE)		
No. drinking days per week	2.4 (0.2)	3.0 (0.2)*
No. drinks per drinking day	5.6 (0.4)	7.0 (0.8)
No. maximum drinks on an occasion last month	9.1 (0.6)	10.7 (0.8)
No. negative consequences, last 3 months, mean (SE)	1.8 (0.3)	2.7 (0.3)*

Notes: Independent test of difference in proportions for dichotomous measures and independent *t* tests for continuous measures. RAPS4 = Four-item Rapid Alcohol Problems Screen.
*$p < .05$, test of difference between assessment and intervention groups.

Using analysis of covariance to control for baseline drinking measures (first data column in Table 3) and, additionally, gender and age (second data column in Table 3),

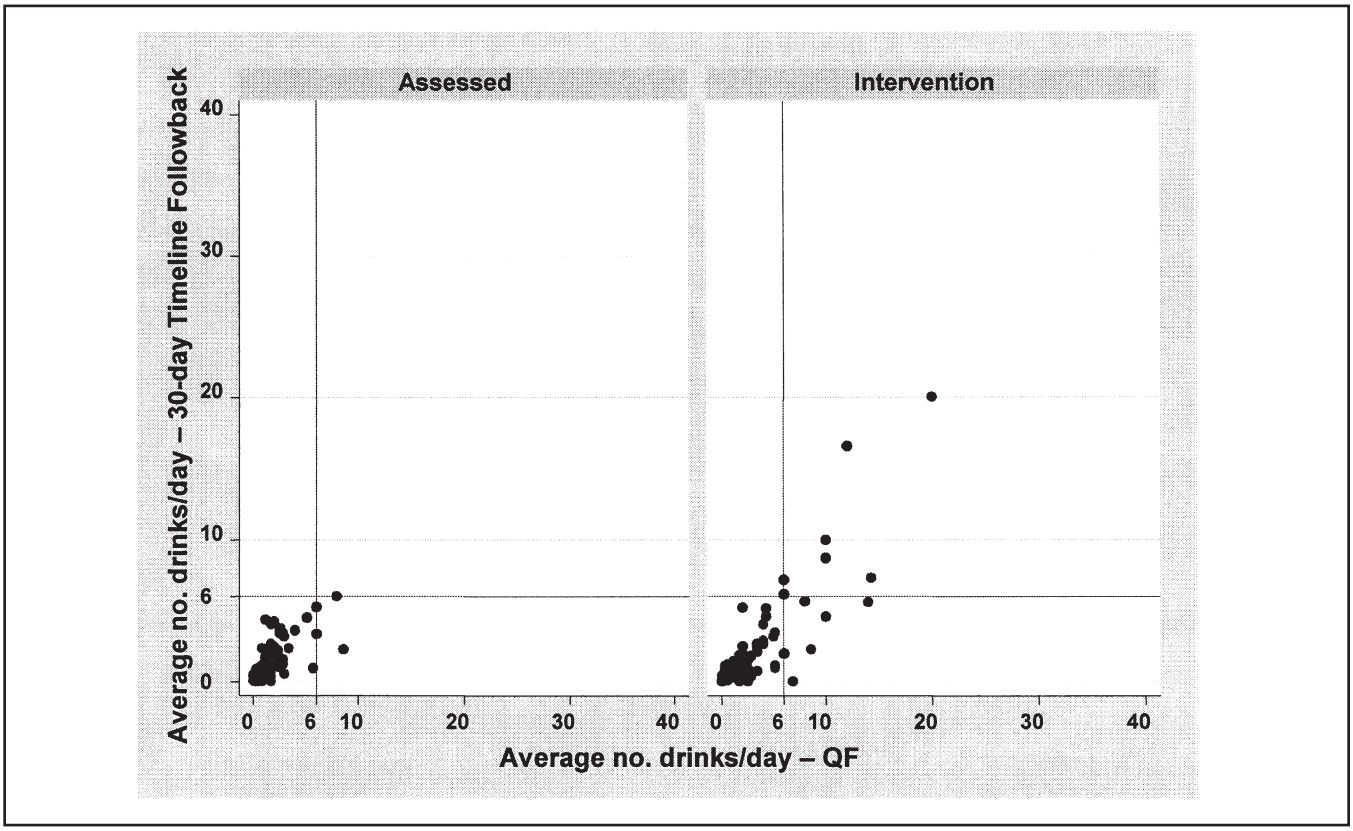

Figure 2. Scatter plot of average volume intake per day at baseline by assessment and intervention groups among those followed up at 3 months; QF = quantity/frequency

TABLE 2. Baseline and 3-month drinking measures for those averaging not more than six drinks per day on both quantity/frequency and Timeline Followback

	Baseline (for those followed up at 3 months)		3-month follow-up	
Variable	Assessment (n = 127)	Intervention (n = 108)	Assessment (n = 127)	Intervention (n = 108)
At-risk drinking, %	87.4	88.0	57.5*	63.9*
Drinking pattern, mean (SE)				
No. drinking days per week	2.3 (0.2)	2.5 (0.2)	1.7 (0.2)*	1.8 (0.2)*
No. drinks per drinking day	5.1 (0.4)	5.4 (0.3)	3.8 (0.3)*	4.1 (0.4)*
No. maximum drinks on an occasion, last month	8.2 (0.5)	9.2 (0.8)	6.6 (0.7)*	6.9 (0.7)*
No. negative consequences, last 3 months, mean (SE)	1.6 (0.2)	1.7 (0.2)	0.86 (0.21)*	0.75 (0.18)*

Notes: McNemar's chi-square test is used for dichotomous measures and paired t test for continuous measures. No significant difference found between assessment and intervention conditions on either baseline or 3-month follow-up measures.
*$p < .05$, test of difference between baseline and 3-month follow-up for assessment and intervention conditions, separately.

no significant differences were found in main or secondary drinking-related outcomes at 3-month follow-up between the assessed and intervention conditions. For example, -0.06 for maximum number of drinks (first data column) refers to the intervention condition showing a 0.06-drink decrease compared with the assessment group in maximum number of drinks on an occasion, controlling for baseline maximum number of drinks.

Subgroup analysis

Subgroup analysis (not shown) was conducted, using analysis of covariance controlling for baseline measures, gender, and age, on the interaction of the intervention condition, separately, with injury status, BAC, self-report of drinking before the event, feeling drunk, attribution of event to drinking, readiness to change, and risk taking/impulsivity and sensation-seeking dispositions on drinking-related outcomes. No significant interactions were found by subgroups for at-risk drinking, and, although effects were not consistent (going in both positive and negative directions), some subgroup modifications were found for secondary outcomes by injury status, BAC, and sensation-seeking disposition.

TABLE 3. Effect of condition (intervention vs assessment) at 3-month follow-up, controlling for baseline measures (Intervention coded 1, Assessment coded 0)

Variable	Intervention vs assessment OR (95% CI)	Intervention vs assessment, controlling for gender and age OR (95% CI)
At-risk drinking	1.31 (0.77, 2.22)	1.32 (0.77, 2.28)
Drinking pattern		
No. drinking days per week	0.10 (-0.33, 0.53)	0.09 (-0.34, 0.53)
No. drinks per drinking day	0.27 (-0.66, 1.20)	0.30 (-0.62, 1.23)
No. maximum drinks on an occasion last month	-0.06 (-1.87, 1.75)	-0.10 (-1.91, 1.71)
No. negative consequences, last 3 months	-0.15 (-0.69, 0.39)	-0.13 (-0.67, 0.42)

Notes: OR = odds ratio; CI = confidence interval.

Discussion

Both assessment and intervention conditions showed significant decreases in at-risk drinking and in secondary outcome measures of average drinking days per week, drinks per drinking day, maximum drinks per occasion, and negative consequences of drinking. No significant differences were found between the two conditions at 3-month follow-up, controlling for baseline measures and demographic characteristics, nor were effects consistently directional, suggesting that intervention had no effect.

Subgroup modifications were found for secondary outcomes by injury status, BAC, and sensation-seeking disposition, suggesting that intervention may have differential benefits for specific groups of patients in the ED; however, effects were not uniformly directional, and this is an area in need of further research. Because of small numbers, the data could not be analyzed separately for injured and noninjured patients, but findings here and elsewhere (Longabaugh et al., 2001; Monti et al., 2007) suggest that future studies by injury status would be important.

Findings reported here are similar to those from other brief-intervention studies in the ED and may be explained by regression to the mean for both conditions and/or assessment reactivity in which the impact of the elaborated assessment, itself, may be as strong as the impact of the intervention. Additionally, patients expecting a follow-up contact may have reduced their drinking under both conditions or may claim to have reduced consumption to meet expectations

of the interviewers. Follow-up telephone interviews also may have tended to underestimate consumption compared with face-to-face interviews in the clinical setting at time of admission to the ED. Finally, it has been suggested that the ED itself, where the milieu is often hectic and interruptions are frequent, could account for the lack of observed positive effects of brief intervention compared with more successful studies conducted in primary care settings, and the ED may be a more appropriate site for screening and referral rather than conducting an intervention (Daeppen et al., 2007).

It is possible that some bias in study findings may have resulted from a restriction in patient recruitment to evening hours, between 4 PM and midnight, if patients admitted to the ED during this time are different in ways (demographic or drinking characteristics) that would affect efficacy of the intervention. Although this is unknown, it does not seem likely.

Additionally, 35% of the target population of those 18 years and older were not screened for of a variety of reasons. However, refusals accounted for only 11% of these (3% of the entire target population), and high intoxication accounted for another 7% (2% of the entire target population). Although selection bias related to those two reasons also may have influenced study findings, those patients are a small proportion of those not screened for other reasons, many of whom presumably would be unlikely to have screened positive and be eligible for enrollment into the study. Last, findings related to subgroup analysis were subject to multiple comparisons, further indicating they are only suggestive and in need of further study.

An important focus of a brief intervention among dependent drinkers is motivating them to make contact with the treatment system—for example, providing a list of community resources and referral sites for alcohol treatment and counseling. Given the lack of demonstrated efficacy of the 14-site SBIRT study in the United States for alcohol-dependent ED patients (which was thought possibly to be the result of alcohol-dependent patients not seeking alcohol treatment; Academic ED SBIRT Research Collaborative, 2007b) and the specialized alcohol-treatment system in Poland (which is equitable and freely available), it was hoped that the present study would help elucidate this limitation. Analysis of 3-month outcomes was restricted to those who reported no more than six drinks per occasion on two separate measures at baseline. This likely eliminated the more severely dependent drinkers who may be most likely to accept a referral to and benefit from outside treatment. (Only one patient in the total sample [including those not meeting this six-drink criterion] reported any alcohol treatment at 3-month follow-up.) Thus, the present study was, unfortunately, not able to shed additional light on this important issue.

As noted earlier, this population typified the characteristic infrequent-but-heavy-drinking patterns found in distilled spirits–drinking countries of Central Europe. Patients followed at 3 months, although averaging no more than 3 drinking days per week, averaged five or more drinks per drinking day and eight or more drinks on occasion at baseline. Given this drinking style, findings here may not be generalizable to other cultures with different drinking patterns.

Despite these limitations, although main findings related to both primary and secondary outcomes were similar to those from other brief-intervention studies in Western cultures, they additionally suggest that intervention may have added benefits above assessment for specific subgroups of patients in the ED. This is an area of research that may warrant additional study of brief intervention in the ED setting.

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